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SEQUENCE LISTING

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<120> PROCESS FOR PRODUCING CYTOTOXIC LYMPHOCYTES

<130> 1422-0709PUS1

<140> US 10/568,745

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<150> PCT/JP2004/012238

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<160> 30

<170> PatentIn version 3.5

<210> 1

<211> 87

<212> PRT

<213> Artificial Sequence

<220>

<223> Chemically synthesized partial region of fibronectin named III-8

<400> 1

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg Val  
1 5 10 15

Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val Arg  
20 25 30

Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile Ser  
35 40 45

Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr Glu  
50 55 60

Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro  
Page 1

65 70 75 80

Leu Arg Gly Arg Gln Lys Thr  
85

<210> 2  
<211> 90  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Chemically synthesized partial region of fibronectin named III-9

<400> 2

Gly Leu Asp Ser Pro Thr Gly Ile Asp Phe Ser Asp Ile Thr Ala Asn  
1 5 10 15

Ser Phe Thr Val His Trp Ile Ala Pro Arg Ala Thr Ile Thr Gly Tyr  
20 25 30

Arg Ile Arg His His Pro Glu His Phe Ser Gly Arg Pro Arg Glu Asp  
35 40 45

Arg Val Pro His Ser Arg Asn Ser Ile Thr Leu Thr Asn Leu Thr Pro  
50 55 60

Gly Thr Glu Tyr Val Val Ser Ile Val Ala Leu Asn Gly Arg Glu Glu  
65 70 75 80

Ser Pro Leu Leu Ile Gly Gln Gln Ser Thr  
85 90

<210> 3  
<211> 94  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Chemically synthesized partial region of fibronectin named III-10

<400> 3

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr  
1 5 10 15

Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr Tyr  
20 25 30

Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe  
35 40 45

Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro  
 50 55 60

Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly Asp  
 65 70 75 80

Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr  
 85 90

<210> 4

<211> 84

<212> PRT

<213> Artificial Sequence

<220>

<223> Chemically synthesized partial region of fibronectin named III-11

<400> 4

Gln Met Gln Val Thr Asp Val Gln Asp Asn Ser Ile Ser Val Lys Trp  
 1 5 10 15

Leu Pro Ser Ser Ser Pro Val Thr Gly Tyr Arg Val Thr Thr Thr Pro  
 20 25 30

Lys Asn Gly Pro Gly Pro Thr Lys Thr Lys Thr Ala Gly Pro Asp Gln  
 35 40 45

Thr Glu Met Thr Ile Glu Gly Leu Gln Pro Thr Val Glu Tyr Val Val  
 50 55 60

Ser Val Tyr Ala Gln Asn Pro Ser Gly Glu Ser Gln Pro Leu Val Gln  
 65 70 75 80

Thr Ala Val Thr

<210> 5

<211> 92

<212> PRT

<213> Artificial Sequence

<220>

<223> Chemically synthesized partial region of fibronectin named III-12

<400> 5

Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe Thr Gln Val Thr Pro Thr  
 1 5 10 15

Ser Leu Ser Ala Gln Trp Thr Pro Pro Asn Val Gln Leu Thr Gly Tyr  
 20 25 30

Arg Val Arg Val Thr Pro Lys Glu Lys Thr Gly Pro Met Lys Glu Ile  
35 40 45

Asn Leu Ala Pro Asp Ser Ser Ser Val Val Val Ser Gly Leu Met Val  
50 55 60

Ala Thr Lys Tyr Glu Val Ser Val Tyr Ala Leu Lys Asp Thr Leu Thr  
65 70 75 80

Ser Arg Pro Ala Gln Gly Val Val Thr Thr Leu Glu  
85 90

<210> 6  
<211> 89  
<212> PRT  
<213> Artificial sequence

<220>  
<223> Chemically synthesized partial region of fibronectin named III-13

<400> 6

Asn Val Ser Pro Pro Arg Arg Ala Arg Val Thr Asp Ala Thr Glu Thr  
1 5 10 15

Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr Glu Thr Ile Thr Gly Phe  
20 25 30

Gln Val Asp Ala Val Pro Ala Asn Gly Gln Thr Pro Ile Gln Arg Thr  
35 40 45

Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln Pro Gly  
50 55 60

Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser  
65 70 75 80

Ser Pro Val Val Ile Asp Ala Ser Thr  
85

<210> 7  
<211> 90  
<212> PRT  
<213> Artificial sequence

<220>  
<223> Chemically synthesized partial region of fibronectin named III-14

<400> 7

Ala Ile Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn  
1 5 10 15

Ser Leu Leu Val Ser Trp Gln Pro Pro Arg Ala Arg Ile Thr Gly Tyr  
20 25 30

Ile Ile Lys Tyr Glu Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro  
35 40 45

Arg Pro Arg Pro Gly Val Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro  
50 55 60

Gly Thr Glu Tyr Thr Ile Tyr Val Ile Ala Leu Lys Asn Asn Gln Lys  
65 70 75 80

Ser Glu Pro Leu Ile Gly Arg Lys Lys Thr  
85 90

<210> 8

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> chemically synthesized partial region of fibronectin named CS-1

<400> 8

Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His Pro Asn Leu His Gly  
1 5 10 15

Pro Glu Ile Leu Asp Val Pro Ser Thr  
20 25

<210> 9

<211> 274

<212> PRT

<213> Human

<220>

<221> misc

<222> (1)..(274)

<223> Fibronectin fragment named C-274

<400> 9

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg Val  
1 5 10 15

Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val Arg  
20 25 30

Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile Ser  
35 40 45

Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr Glu  
 50 55 60  
 Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro  
 65 70 75 80  
 Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp  
 85 90 95  
 Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro  
 100 105 110  
 Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe  
 115 120 125  
 Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile  
 130 135 140  
 Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile Val  
 145 150 155 160  
 Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser  
 165 170 175  
 Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro  
 180 185 190  
 Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr  
 195 200 205  
 Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu  
 210 215 220  
 Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys  
 225 230 235 240  
 Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly  
 245 250 255  
 Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr Glu  
 260 265 270  
 Ile Asp

<211> 271  
 <212> PRT  
 <213> Human

<220>  
 <221> misc  
 <222> (1)..(271)  
 <223> Fibronectin fragment named H-271

<400> 10

Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe Thr Gln Val Thr Pro Thr  
 1 5 10 15

Ser Leu Ser Ala Gln Trp Thr Pro Pro Asn Val Gln Leu Thr Gly Tyr  
 20 25 30

Arg Val Arg Val Thr Pro Lys Glu Lys Thr Gly Pro Met Lys Glu Ile  
 35 40 45

Asn Leu Ala Pro Asp Ser Ser Ser Val Val Val Ser Gly Leu Met Val  
 50 55 60

Ala Thr Lys Tyr Glu Val Ser Val Tyr Ala Leu Lys Asp Thr Leu Thr  
 65 70 75 80

Ser Arg Pro Ala Gln Gly Val Val Thr Thr Leu Glu Asn Val Ser Pro  
 85 90 95

Pro Arg Arg Ala Arg Val Thr Asp Ala Thr Glu Thr Thr Ile Thr Ile  
 100 105 110

Ser Trp Arg Thr Lys Thr Glu Thr Ile Thr Gly Phe Gln Val Asp Ala  
 115 120 125

Val Pro Ala Asn Gly Gln Thr Pro Ile Gln Arg Thr Ile Lys Pro Asp  
 130 135 140

Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln Pro Gly Thr Asp Tyr Lys  
 145 150 155 160

Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro Val Val  
 165 170 175

Ile Asp Ala Ser Thr Ala Ile Asp Ala Pro Ser Asn Leu Arg Phe Leu  
 180 185 190

Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp Gln Pro Pro Arg Ala  
 195 200 205

Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu Lys Pro Gly Ser Pro Pro  
 210 215 220

Arg Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr Glu Ala Thr Ile  
 225 230 235 240

Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr Ile Tyr Val Ile Ala Leu  
 245 250 255

Lys Asn Asn Gln Lys Ser Glu Pro Leu Ile Gly Arg Lys Lys Thr  
 260 265 270

<210> 11

<211> 296

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic fibronectin fragment named H-296

<400> 11

Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe Thr Gln Val Thr Pro Thr  
 1 5 10 15

Ser Leu Ser Ala Gln Trp Thr Pro Pro Asn Val Gln Leu Thr Gly Tyr  
 20 25 30

Arg Val Arg Val Thr Pro Lys Glu Lys Thr Gly Pro Met Lys Glu Ile  
 35 40 45

Asn Leu Ala Pro Asp Ser Ser Ser Val Val Val Ser Gly Leu Met Val  
 50 55 60

Ala Thr Lys Tyr Glu Val Ser Val Tyr Ala Leu Lys Asp Thr Leu Thr  
 65 70 75 80

Ser Arg Pro Ala Gln Gly Val Val Thr Thr Leu Glu Asn Val Ser Pro  
 85 90 95

Pro Arg Arg Ala Arg Val Thr Asp Ala Thr Glu Thr Thr Ile Thr Ile  
 100 105 110

Ser Trp Arg Thr Lys Thr Glu Thr Ile Thr Gly Phe Gln Val Asp Ala  
 115 120 125

Val Pro Ala Asn Gly Gln Thr Pro Ile Gln Arg Thr Ile Lys Pro Asp  
 130 135 140



Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln Pro Gly Thr Asp Tyr Lys  
145 150 155 160

Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro Val Val  
165 170 175

Ile Asp Ala Ser Thr Ala Ile Asp Ala Pro Ser Asn Leu Arg Phe Leu  
180 185 190

Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp Gln Pro Pro Arg Ala  
195 200 205

Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu Lys Pro Gly Ser Pro Pro  
210 215 220

Arg Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr Glu Ala Thr Ile  
225 230 235 240

Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr Ile Tyr Val Ile Ala Leu  
245 250 255

Lys Asn Asn Gln Lys Ser Glu Pro Leu Ile Gly Arg Lys Lys Thr Asp  
260 265 270

Glu Leu Pro Gln Leu Val Thr Leu Pro His Pro Asn Leu His Gly Pro  
275 280 285

Glu Ile Leu Asp Val Pro Ser Thr  
290 295

<210> 12

<211> 549

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic fibronectin fragment named CH-271

<400> 12

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg Val  
1 5 10 15

Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val Arg  
20 25 30

Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile Ser  
35 40 45

Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr Glu  
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50

55

60

Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro  
 65 70 75 80

Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp  
 85 90 95

Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro  
 100 105 110

Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe  
 115 120 125

Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile  
 130 135 140

Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile Val  
 145 150 155 160

Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser  
 165 170 175

Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro  
 180 185 190

Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr  
 195 200 205

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu  
 210 215 220

Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys  
 225 230 235 240

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly  
 245 250 255

Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr Glu  
 260 265 270

Ile Asp Lys Pro Ser Met Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe  
 275 280 285

Thr Gln Val Thr Pro Thr Ser Leu Ser Ala Gln Trp Thr Pro Pro Asn  
 290 295 300

Val Gln Leu Thr Gly Tyr Arg Val Arg Val Thr Pro Lys Glu Lys Thr  
 305 310 315 320  
 Gly Pro Met Lys Glu Ile Asn Leu Ala Pro Asp Ser Ser Ser Val Val  
 325 330 335  
 Val Ser Gly Leu Met Val Ala Thr Lys Tyr Glu Val Ser Val Tyr Ala  
 340 345 350  
 Leu Lys Asp Thr Leu Thr Ser Arg Pro Ala Gln Gly Val Val Thr Thr  
 355 360 365  
 Leu Glu Asn Val Ser Pro Pro Arg Arg Ala Arg Val Thr Asp Ala Thr  
 370 375 380  
 Glu Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr Glu Thr Ile Thr  
 385 390 395 400  
 Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln Thr Pro Ile Gln  
 405 410 415  
 Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln  
 420 425 430  
 Pro Gly Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala  
 435 440 445  
 Arg Ser Ser Pro Val Val Ile Asp Ala Ser Thr Ala Ile Asp Ala Pro  
 450 455 460  
 Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser  
 465 470 475 480  
 Trp Gln Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu  
 485 490 495  
 Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro Gly  
 500 505 510  
 Val Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr  
 515 520 525  
 Ile Tyr Val Ile Ala Leu Lys Asn Asn Gln Lys Ser Glu Pro Leu Ile  
 530 535 540  
 Gly Arg Lys Lys Thr  
 545

<210> 13  
 <211> 574  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> synthetic fibronectin fragment named CH-296

<400> 13

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg Val  
 1 5 10 15

Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val Arg  
 20 25 30

Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile Ser  
 35 40 45

Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr Glu  
 50 55 60

Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro  
 65 70 75 80

Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp  
 85 90 95

Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro  
 100 105 110

Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe  
 115 120 125

Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile  
 130 135 140

Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile Val  
 145 150 155 160

Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser  
 165 170 175

Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro  
 180 185 190

Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr  
 195 200 205

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu  
 210 215 220

Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys  
 225 230 235 240

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly  
 245 250 255

Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr Glu  
 260 265 270

Ile Asp Lys Pro Ser Met Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe  
 275 280 285

Thr Gln Val Thr Pro Thr Ser Leu Ser Ala Gln Trp Thr Pro Pro Asn  
 290 295 300

Val Gln Leu Thr Gly Tyr Arg Val Arg Val Thr Pro Lys Glu Lys Thr  
 305 310 315 320

Gly Pro Met Lys Glu Ile Asn Leu Ala Pro Asp Ser Ser Ser Val Val  
 325 330 335

Val Ser Gly Leu Met Val Ala Thr Lys Tyr Glu Val Ser Val Tyr Ala  
 340 345 350

Leu Lys Asp Thr Leu Thr Ser Arg Pro Ala Gln Gly Val Val Thr Thr  
 355 360 365

Leu Glu Asn Val Ser Pro Pro Arg Arg Ala Arg Val Thr Asp Ala Thr  
 370 375 380

Glu Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr Glu Thr Ile Thr  
 385 390 395 400

Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln Thr Pro Ile Gln  
 405 410 415

Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln  
 420 425 430

Pro Gly Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala  
 435 440 445

Arg Ser Ser Pro Val Val Ile Asp Ala Ser Thr Ala Ile Asp Ala Pro  
 450 455 460

Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser  
465 470 475 480

Trp Gln Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu  
485 490 495

Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro Gly  
500 505 510

Val Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr  
515 520 525

Ile Tyr Val Ile Ala Leu Lys Asn Asn Gln Lys Ser Glu Pro Leu Ile  
530 535 540

Gly Arg Lys Lys Thr Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His  
545 550 555 560

Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro Ser Thr  
565 570

<210> 14

<211> 302

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic fibronectin fragment named C-CS1

<400> 14

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg Val  
1 5 10 15

Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val Arg  
20 25 30

Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile Ser  
35 40 45

Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr Glu  
50 55 60

Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro  
65 70 75 80

Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp  
85 90 95

Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro  
 100 105 110

Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe  
 115 120 125

Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile  
 130 135 140

Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile Val  
 145 150 155 160

Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser  
 165 170 175

Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro  
 180 185 190

Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr  
 195 200 205

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu  
 210 215 220

Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys  
 225 230 235 240

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly  
 245 250 255

Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr Glu  
 260 265 270

Ile Asp Lys Pro Ser Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His  
 275 280 285

Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro Ser Thr  
 290 295 300

<210> 15

<211> 367

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibronectin fragment named CHV-89

<400> 15

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg Val  
 Page 15

1 5 10 15  
 Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val Arg  
 20 25 30  
 Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile Ser  
 35 40 45  
 Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr Glu  
 50 55 60  
 Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro  
 65 70 75 80  
 Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp  
 85 90 95  
 Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro  
 100 105 110  
 Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe  
 115 120 125  
 Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile  
 130 135 140  
 Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile Val  
 145 150 155 160  
 Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser  
 165 170 175  
 Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro  
 180 185 190  
 Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr  
 195 200 205  
 Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu  
 210 215 220  
 Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys  
 225 230 235 240  
 Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly  
 245 250 255



Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr Glu  
 260 265 270

Ile Asp Lys Pro Ser Met Asn Val Ser Pro Pro Arg Arg Ala Arg Val  
 275 280 285

Thr Asp Ala Thr Glu Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr  
 290 295 300

Glu Thr Ile Thr Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln  
 305 310 315 320

Thr Pro Ile Gln Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile  
 325 330 335

Thr Gly Leu Gln Pro Gly Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu  
 340 345 350

Asn Asp Asn Ala Arg Ser Ser Pro Val Val Ile Asp Ala Ser Thr  
 355 360 365

<210> 16

<211> 368

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibronectin fragment named CHV-90

<400> 16

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg Val  
 1 5 10 15

Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val Arg  
 20 25 30

Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile Ser  
 35 40 45

Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr Glu  
 50 55 60

Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro  
 65 70 75 80

Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp  
 85 90 95

Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro  
 Page 17

100

105

110

Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe  
 115 120 125

Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile  
 130 135 140

Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile Val  
 145 150 155 160

Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser  
 165 170 175

Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro  
 180 185 190

Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr  
 195 200 205

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu  
 210 215 220

Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys  
 225 230 235 240

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly  
 245 250 255

Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr Glu  
 260 265 270

Ile Asp Lys Pro Ser Met Ala Ile Asp Ala Pro Ser Asn Leu Arg Phe  
 275 280 285

Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp Gln Pro Pro Arg  
 290 295 300

Ala Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu Lys Pro Gly Ser Pro  
 305 310 315 320

Pro Arg Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr Glu Ala Thr  
 325 330 335

Ile Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr Ile Tyr Val Ile Ala  
 340 345 350

Leu Lys Asn Asn Gln Lys Ser Glu Pro Leu Ile Gly Arg Lys Lys Thr  
 355 360 365

<210> 17

<211> 370

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic fibronectin fragment named CHV-92

<400> 17

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg Val  
 1 5 10 15

Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val Arg  
 20 25 30

Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile Ser  
 35 40 45

Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr Glu  
 50 55 60

Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro  
 65 70 75 80

Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp  
 85 90 95

Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro  
 100 105 110

Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe  
 115 120 125

Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile  
 130 135 140

Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile Val  
 145 150 155 160

Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser  
 165 170 175

Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro  
 180 185 190

Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr  
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200

205

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu  
210 215 220

Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys  
225 230 235 240

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly  
245 250 255

Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr Glu  
260 265 270

Ile Asp Lys Pro Ser Met Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe  
275 280 285

Thr Gln Val Thr Pro Thr Ser Leu Ser Ala Gln Trp Thr Pro Pro Asn  
290 295 300

Val Gln Leu Thr Gly Tyr Arg Val Arg Val Thr Pro Lys Glu Lys Thr  
305 310 315 320

Gly Pro Met Lys Glu Ile Asn Leu Ala Pro Asp Ser Ser Ser Val Val  
325 330 335

Val Ser Gly Leu Met Val Ala Thr Lys Tyr Glu Val Ser Val Tyr Ala  
340 345 350

Leu Lys Asp Thr Leu Thr Ser Arg Pro Ala Gln Gly Val Val Thr Thr  
355 360 365

Leu Glu  
370

<210> 18  
<211> 457  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic fibronectin fragment named CHV-179

<400> 18

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg Val  
1 5 10 15

Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val Arg  
20 25 30

Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile Ser  
35 40 45

Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr Glu  
50 55 60

Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro  
65 70 75 80

Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp  
85 90 95

Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro  
100 105 110

Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe  
115 120 125

Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile  
130 135 140

Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile Val  
145 150 155 160

Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser  
165 170 175

Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro  
180 185 190

Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr  
195 200 205

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu  
210 215 220

Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys  
225 230 235 240

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly  
245 250 255

Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr Glu  
260 265 270

Ile Asp Lys Pro Ser Met Asn Val Ser Pro Pro Arg Arg Ala Arg Val  
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Thr Asp Ala Thr Glu Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr  
290 295 300

Glu Thr Ile Thr Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln  
305 310 315 320

Thr Pro Ile Gln Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile  
325 330 335

Thr Gly Leu Gln Pro Gly Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu  
340 345 350

Asn Asp Asn Ala Arg Ser Ser Pro Val Val Ile Asp Ala Ser Thr Ala  
355 360 365

Ile Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser  
370 375 380

Leu Leu Val Ser Trp Gln Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile  
385 390 395 400

Ile Lys Tyr Glu Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg  
405 410 415

Pro Arg Pro Gly Val Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly  
420 425 430

Thr Glu Tyr Thr Ile Tyr Val Ile Ala Leu Lys Asn Asn Gln Lys Ser  
435 440 445

Glu Pro Leu Ile Gly Arg Lys Lys Thr  
450 455

<210> 19  
<211> 459  
<212> PRT  
<213> Artificial sequence

<220>  
<223> synthetic fibronectin fragment named CHV-181

<400> 19

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg Val  
1 5 10 15

Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val Arg  
20 25 30

Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile Ser  
 35 40 45

Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr Glu  
 50 55 60

Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro  
 65 70 75 80

Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp  
 85 90 95

Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro  
 100 105 110

Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe  
 115 120 125

Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile  
 130 135 140

Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile Val  
 145 150 155 160

Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser  
 165 170 175

Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro  
 180 185 190

Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr  
 195 200 205

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu  
 210 215 220

Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys  
 225 230 235 240

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly  
 245 250 255

Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr Glu  
 260 265 270

Ile Asp Lys Pro Ser Met Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe  
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280

285

Thr Gln Val Thr Pro Thr Ser Leu Ser Ala Gln Trp Thr Pro Pro Asn  
290 295 300

Val Gln Leu Thr Gly Tyr Arg Val Arg Val Thr Pro Lys Glu Lys Thr  
305 310 315 320

Gly Pro Met Lys Glu Ile Asn Leu Ala Pro Asp Ser Ser Ser Val Val  
325 330 335

Val Ser Gly Leu Met Val Ala Thr Lys Tyr Glu Val Ser Val Tyr Ala  
340 345 350

Leu Lys Asp Thr Leu Thr Ser Arg Pro Ala Gln Gly Val Val Thr Thr  
355 360 365

Leu Glu Asn Val Ser Pro Pro Arg Arg Ala Arg Val Thr Asp Ala Thr  
370 375 380

Glu Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr Glu Thr Ile Thr  
385 390 395 400

Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln Thr Pro Ile Gln  
405 410 415

Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln  
420 425 430

Pro Gly Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala  
435 440 445

Arg Ser Ser Pro Val Val Ile Asp Ala Ser Thr  
450 455

<210> 20

<211> 276

<212> PRT

<213> Artificial sequence

<220>

<223> synthetic fibronectin fragment named H-275-Cys

<400> 20

Met Ala Ala Ser Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe Thr Gln  
1 5 10 15

Val Thr Pro Thr Ser Leu Ser Ala Gln Trp Thr Pro Pro Asn Val Gln  
20 25 30



Leu Thr Gly Tyr Arg Val Arg Val Thr Pro Lys Glu Lys Thr Gly Pro  
 35 40 45  
 Met Lys Glu Ile Asn Leu Ala Pro Asp Ser Ser Ser Val Val Val Ser  
 50 55 60  
 Gly Leu Met Val Ala Thr Lys Tyr Glu Val Ser Val Tyr Ala Leu Lys  
 65 70 75 80  
 Asp Thr Leu Thr Ser Arg Pro Ala Gln Gly Val Val Thr Thr Leu Glu  
 85 90 95  
 Asn Val Ser Pro Pro Arg Arg Ala Arg Val Thr Asp Ala Thr Glu Thr  
 100 105 110  
 Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr Glu Thr Ile Thr Gly Phe  
 115 120 125  
 Gln Val Asp Ala Val Pro Ala Asn Gly Gln Thr Pro Ile Gln Arg Thr  
 130 135 140  
 Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln Pro Gly  
 145 150 155 160  
 Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser  
 165 170 175  
 Ser Pro Val Val Ile Asp Ala Ser Thr Ala Ile Asp Ala Pro Ser Asn  
 180 185 190  
 Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp Gln  
 195 200 205  
 Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu Lys Pro  
 210 215 220  
 Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr  
 225 230 235 240  
 Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr Ile Tyr  
 245 250 255  
 Val Ile Ala Leu Lys Asn Asn Gln Lys Ser Glu Pro Leu Ile Gly Arg  
 260 265 270  
 Lys Lys Thr Cys

275

<210> 21  
 <211> 38  
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<220>  
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<400> 21  
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<210> 22  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic primer 14A

<400> 22  
 aaaggatccc taactagtct ttttccttcc aatcag 36

<210> 23  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic primer Cys-A

<400> 23  
 aaaagcggcc gctagcgcaa gccatggtct gtttcctgtg 40

<210> 24  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic primer Cys-S

<400> 24  
 aaaagcggcc gcactagtgc atagggatcc ggctgagcaa c 41

<210> 25  
 <211> 658  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetic fibronectin fragment named CH-296Na

<400> 25

Met Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg  
 1 5 10 15

Val Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu Val  
20 25 30

Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser Ile  
35 40 45

Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr  
50 55 60

Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln His Glu Ser Thr  
65 70 75 80

Pro Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile  
85 90 95

Asp Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala  
100 105 110

Pro Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His  
115 120 125

Phe Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser  
130 135 140

Ile Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile  
145 150 155 160

Val Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln  
165 170 175

Ser Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr  
180 185 190

Pro Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg  
195 200 205

Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln  
210 215 220

Glu Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu  
225 230 235 240

Lys Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg  
245 250 255

Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr  
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Glu Ile Asp Lys Pro Ser Gln Met Gln Val Thr Asp Val Gln Asp Asn  
275 280 285

Ser Ile Ser Val Lys Trp Leu Pro Ser Ser Ser Pro Val Thr Gly Tyr  
290 295 300

Arg Val Thr Thr Thr Pro Lys Asn Gly Pro Gly Pro Thr Lys Thr Lys  
305 310 315 320

Thr Ala Gly Pro Asp Gln Thr Glu Met Thr Ile Glu Gly Leu Gln Pro  
325 330 335

Thr Val Glu Tyr Val Val Ser Val Tyr Ala Gln Asn Pro Ser Gly Glu  
340 345 350

Ser Gln Pro Leu Val Gln Thr Ala Val Thr Ala Ile Pro Ala Pro Thr  
355 360 365

Asp Leu Lys Phe Thr Gln Val Thr Pro Thr Ser Leu Ser Ala Gln Trp  
370 375 380

Thr Pro Pro Asn Val Gln Leu Thr Gly Tyr Arg Val Arg Val Thr Pro  
385 390 395 400

Lys Glu Lys Thr Gly Pro Met Lys Glu Ile Asn Leu Ala Pro Asp Ser  
405 410 415

Ser Ser Val Val Val Ser Gly Leu Met Val Ala Thr Lys Tyr Glu Val  
420 425 430

Ser Val Tyr Ala Leu Lys Asp Thr Leu Thr Ser Arg Pro Ala Gln Gly  
435 440 445

Val Val Thr Thr Leu Glu Asn Val Ser Pro Pro Arg Arg Ala Arg Val  
450 455 460

Thr Asp Ala Thr Glu Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr  
465 470 475 480

Glu Thr Ile Thr Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln  
485 490 495

Thr Pro Ile Gln Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile  
500 505 510

Thr Gly Leu Gln Pro Gly Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu  
515 520 525

Asn Asp Asn Ala Arg Ser Ser Pro Val Val Ile Asp Ala Ser Thr Ala  
530 535 540

Ile Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser  
545 550 555 560

Leu Leu Val Ser Trp Gln Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile  
565 570 575

Ile Lys Tyr Glu Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg  
580 585 590

Pro Arg Pro Gly Val Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly  
595 600 605

Thr Glu Tyr Thr Ile Tyr Val Ile Ala Leu Lys Asn Asn Gln Lys Ser  
610 615 620

Glu Pro Leu Ile Gly Arg Lys Lys Thr Asp Glu Leu Pro Gln Leu Val  
625 630 635 640

Thr Leu Pro His Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro  
645 650 655

Ser Thr

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<211> 1989  
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&lt;210&gt; 27

&lt;211&gt; 22

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetic primer CH-296Na1

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<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
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<400> 28  
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<210> 29  
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<212> DNA  
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<223> Synthetic primer CH-296Na3

<400> 29  
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<210> 30  
<211> 4  
<212> PRT  
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<220>  
<223> Synthetic peptide

<400> 30

Met Ala Ala Ser

1